Veggie-e-Gram Newsletter
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Note: Some of the information provided on products/pesticide use below, is from other states and thus the products may have no current Hawaii registration. Always read the label before making any product/pesticide applications. Due to environmental effects the effectiveness of particular products may also vary across locations. Also note that recommendations developed for northern climates may not be directly applicable to Hawaii.

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1.0 Organics: Increased market penetration

39% OF U.S. CONSUMERS CHOOSE ORGANIC FOOD

The 2002 Organic Consumer Trends Report, a study jointly produced by The Natural Marketing Institute, Pennsylvania and SPINS, San Francisco, has found that 39% of the U.S. population, or more than 40 million households, uses organic products. This robust household penetration accounts for $6.9 billion in U.S. organic food and beverage sales. The report identifies a range of organic consumer segments, and compares key attitudes, behaviors and purchase patterns of each. Three U.S. organic segments are divided into three categories: The Organic Integrated Group, it says, makes up 37% of all organic users, holds very strong attitudes toward organically grown foods, and consumes such food more than once a day. In the middle is a group that represents 39% of all organic users, and consumes organics at least weekly. On the fringe is a group that makes up 24% of all organic users and eats such food only occasionally. Steve French, NMI managing partner, said fewer than half of U.S. consumers understand what makes a product organic. "Marketers will need to take the responsibility of communicating these key benefits of organic products to consumers," French said.

Source: Supermarket News
To read the full article, please visit http://www.supermarketnews.com/ViewStories.cfm#3903
(MARKET POWER: Buying for the Future - Vol. 6, Number 1 January 3, 2003)

'2.0 Healthy Grown' brand potatoes

COALITION BUILDS A BETTER POTATO FARM
The Wisconsin Potato and Vegetable Growers' Association has teamed with the University of Wisconsin and the World Wildlife Fund to build a better way of growing potatoes. Traditional methods of growing potatoes in the state have relied heavily on toxic pesticides such as the insecticide aldicarb. Recognizing that these pesticides posed risks to farmer health, drinking water, trout streams and endangered wildlife, the groups began to collaborate to find a better way to manage pests on potatoes. The group initially developed better pesticide management and application tools, and has moved toward a more biointensive "Integrated Pest Management" approach. The group is also developing market incentives to promote the sale of low-pesticide potatoes. In 2001 anew ecolabel, Protected Harvest, owned by an independent non-profit organization was introduced. Wisconsin potatoes are the first product certified under the Protected Harvest label and are marketed under the brand "Healthy Grown." (Defenders Rural Updates! January 15, 2003)

3.0 GMO (biotech) labeling agreement in Europe

EUROPEAN COUNCIL OF AGRICULTURE MINISTERS REACHES AGREEMENT ON GMO LABELING REGIME

The European Union took a major step toward imposing the world's strictest, most comprehensive labeling scheme for food products and animal feed containing genetically modified organisms following the Council of Agriculture Ministers' agreement on the issue Nov. 28.

In what could end up as a major trade dispute between the United States and the EU in the World Trade Organization, the Council of Ministers approved a bill that will require products containing all but minute traces of GMOs to be labeled, including thousands that currently are exempt from listing the presence of a genetically engineered crop. As a result of the strict labeling regulation, to which the United States has vociferously objected, American farmers most likely will have to separate GMO crops from non-GMO crops if they want to export their products to the EU.
4.0 Establishing Local food and farm groups

"GOING LOCAL"
By Cathy Roth, UMass Extension

Each year growers in Massachusetts produce a remarkable bounty of food. At the same time, the survival and sustainability of our farms and our local food supply is threatened. During the last several years, community members have come to recognize that small, working farms are essential for fresh and healthy food, as well as vital to the economy, environment, and cultural identity of the places where we live. As a result farmers and community-based groups are working together to build a local food system that better serves shared values and needs.

There are currently more than 50 such "local food and farm groups" in the Northeast region. Three of these active and successful local endeavors are working with growers in Massachusetts - Berkshire Grown, (Berkshire County), Community Involved in Sustaining Agriculture (CISA - Pioneer Valley), and Southern Massachusetts Agricultural Partnership (SEMAP).

This collaboration allows growers to do what they do best — grow fresh and healthy food and develop direct, one-to-one relationships with buyers. It also allows food and farm groups to focus their efforts where they excel — getting growers and buyers together and educating a larger public about the value of local food and farming. Some of the ways these three MA groups are working with MA growers include: diversifying; selling to stores and supermarkets; selling direct from the farm; expanding market choices; finding
markets for a new farm; understanding buyers' needs and vice versa; selling at a farmers' market; developing a new product; networking farmer to farmer.

Amy Cotler, Director of Berkshire Grown, describes one aspect of this collaboration: "Our purpose is to support and promote locally based agriculture as a vital part of a healthy Berkshire economy and landscape. We know that different personalities work best in different markets. Wholesale, farmstand, selling to chefs, farmers' markets: there is no one way that is right for everyone. The right product, personality, approach, and business savvy - all need to go together. Farming is a business and those who succeed learn to reinvent themselves in terms of the market. We help facilitate that process. One of the main ways farmers benefit from Berkshire Grown is through our Business to Business ("B2B") program. We get growers and buyers together and help them make the connection. There are now over 60 buyers and 90 farmers in the B2B program. Because it's the Berkshires, we've been particularly successful in matching small and large farms with small and large restaurants and institutions."

Don and Judy Leab, growers from Hancock, MA, have reaped several benefits from working with Berkshire Grown. Judy says, "Berkshire Grown (BG) helps retail, because it keeps people aware. BG did some nice ads for PYO this year, and I do see people take the county-wide farm maps we keep at our farmstand [Berkshire Grown Buyers' Guide to Locally Grown Food, Flowers and Plants]. I like the fact that they keep in front of the public that we still have farms here and these farms have fresh foods available. We've been in BG from the start, and in the UMass Extension food and farm discussions that BG came out of. Don and I are interested in keeping agriculture 'alive and well' in the state, not just in the county; we lose infrastructure otherwise. When farms disappear, the fertilizer dealer, the hardware store where you buy your tools, the machinery dealer get farther and farther away. Central Tractor, a farm store that carried everything you need, went bankrupt; we now travel 50 miles or depend on UPS. As we changed from dairy to vegetables and smaller commodities, BG made sense for us to be part of. The concept was good, and it's good for farmers."
Financially, we'd be better off selling the land for development, which we call ‘the last crop’; it’s not something we want.”

Working together, growers and food and farm groups are solving some of the problems of being a viable enterprise in a challenging period for Massachusetts’s agriculture. At the same time they represent one example of "going local" - recognizing the value of local food, appreciating the skills and knowledge of those who grow and provide it, and understanding the relationship between a strong local food system and a strong local economy.

To read about nine growers who are successfully working with food and farm groups, you may order the new UMass Extension Publication, "Straight From the Farm - Farmers and Local Food and Farm Groups Tell How They Are Changing Farming in the Northeast," by Rena Gill, 26 pages, $5. Available from lauriec@umext.umass.edu.

For more information contact the following food and farm groups in your region: Berkshire Grown: Amy Cotler, Director; P.O. Box 983; Gt. Barrington, MA 01230; Phone: 413-528-0041; bgrown@bcn.net; www.berkshiregrown.org. Community Involved in Sustaining Agriculture (CISA): Annie Cheatham, Director; 893 West Street; Amherst, MA 01002; Phone: 413-559-5338; www.buylocalfood.com. Southeastern Massachusetts Agricultural Partnership (SEMAP): Irene Winkler, Coordinator NRCS - Pilgrim RC&D; 15 Cranberry Highway; West Wareham, MA 02576; Phone: 508-295-1317, Ext. 130; irene.winkler@mawestware.fsc.usda; www.umassd.edu/SEMAP (Cathy Roth, ed, Vegetable Notes, University Of Massachusetts Extension Vegetable Program, December, 2002, VOLUME 13, NUMBER 22)

5.0 Gummy Stem Blight (Florida)

Gummy Stem Blight
Gummy stem blight is widely present on cucurbits around southwest Florida. Incidence and severity ranges from low to moderate depending the location.

Dr Tom Kucharek UF/IFAS Plant Pathologist has passed on the following caution to growers. Cabrio 2.08 FL, Headline 2.08 FL, Quadris 2.08 FL, Nova and Abound 2.08 FL are in the strobilurin group of fungicides and they all have the same specific mode of action.

Resistance to this chemistry is present in some pathogens including gummy stem blight. Many isolates from Florida of Didymella bryoniae, the causal agent of gummy stem blight, are no longer sensitive to Quadris 2.08 FL. Thus, rotation of Quadris with Cabrio in a spray program should not be relied on for resistance management. Syngenta, the manufacturer of Quadris and Abound, and BASF, the manufacturer of Cabrio and Headline, will clearly state this situation on their future labels and are in the throws of informing users of these products about the close relatedness of these products.

In Florida, gummy stem blight (black rot) is a serious disease that occurs annually on watermelons. Cucumbers, muskmelons, cantaloupes, squash, and other members of the cucurbit family may also be infected with gummy stem blight. Cucurbits may be infected at any time from seedlings to mature vines with fruit. Butternut and other winter squash are likely to exhibit symptoms only on the fruit or older leaves.

Infection and symptoms may occur on all plant parts except roots. Symptoms appear as light to dark brown circular spots on leaves or as a light to dark brown to black, often gummy, lesions on stems. Prior to the occurrence of chlorosis or necrosis, tissues may appear watersoaked. Wilting, followed by death of young plants may occur. Stem lesions enlarge and slowly girdle the main stem resulting in a red-brown-black canker that cracks and may exude a red to amber gummy substance. Vine wilting is usually a late symptom. Use of a hand lens will reveal small, clear white (when young) to black (when old), pimple-like pycnidia embedded in older diseased tissue.
Gummy stem blight typically progresses from the central stem of the plant to growing tips. Leaf spots are variable in shape, reddish-brown in color and initial infections are generally seen on leaf margins and veinal areas.

The fungus (Didymella bryoniae) that causes gummy stem blight produces two spore stages, a sexually produced spore (ascospore) and an asexually produced spore (pycnidiospore). The ascospore is windborne and can be disseminated from field to field serving as a primary source of inoculum. The pycnidiospore functions mainly in secondary spread of the disease. Pycnidiospores are released in a gummy substance that makes them more adaptable for spread by splashing water.

Growers often comment on this disease occurring “overnight.” What they are actually seeing are the results of secondary spread, which is more difficult to control than primary spread simply because of increased spore numbers with increased diseased tissue.

Nighttime temperatures and moisture conditions are ideal during much of the growing season in Florida. Gummy stem blight is most severe in wet years since moisture from dew, rain or irrigation is necessary for spore germination. The optimum temperature for infection is 61 to 75°F. After a spore germinates on a susceptible host, the fungus penetrates the plant tissue and symptoms can appear in 7 to 12 days. Wounds assist in promoting infection.

Gummy stem blight can be successfully managed if the grower utilizes a combination of control strategies. Control of primary sources of inoculum is important. Growers should purchase clean seed from reputable companies produced in arid western locations and avoid transplants that have gummy stem blight or other diseases.

In addition to seed, the most important source of primary inoculum is organic debris from previous cucurbit crops. After harvest, crop debris from should be plowed under to reduce inoculum. Volunteers and wild cucurbits provide an additional source of inoculum. Crop rotation and destruction of weed hosts are important for gummy stem blight control.
Multiple applications of fungicides are necessary to control gummy stem blight. It is important to begin a fungicide program prior to the first sign of gummy stem blight. In south Florida, the spray program should be initiated soon after emergence. Manzate, Bravo, Benlate and Quadris have given good results locally.

(Gene McAvoy, SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, November 27, 2002).

6.0 Tomato Spotted Wilt Virus on Basil and Peas?

Recent reports from the literature on possible potential hosts of this important disease.

SISN=37275
Call Number : A:PS
Author : Holcomb, G.E.; Valverde, R.A.; Sim, J.; Nuss, J.;
Title : First report on natural occurrence of tomato spotted wilt tospovirus in basil (Ocimum basilicum).
Language : En, Abst. in En,
Region/Country : United States;
Keywords : BASIL/ OCIMUM BASILICUM/ OCIMUM/ INDIGENOUS VEGETABLES/ SUMMER/ SYMPTOMS/ TOMATO SPOTTED WILT VIRUS/ ELISA/ TOMATOES/ SYMPTOMS/

Abstract : Virus-like symptoms were observed on basil plants (Ocimum basilicum) cv. Mrs. Burns Lemon growing in containers and a demonstration plot at the Louisiana State University Burden Research Plantation, Baton Rouge, USA, during July 1998. The causal virus was identified as the common strain of tomato spotted wilt virus by ELISA. It is thought that an outbreak of thrips during the summer drought of 1998 may have been responsible for the occurrence of TSWV in basil in Louisiana.

SISN=37041
Call Number : A:PS
Tomato spotted wilt virus affected grass pea, Lathyrus sativus, and field pea, Pisum sativum var. arvense, in the greenhouse at the Agriculture Canada Research Station, Manitoba, Canada, during the winters of 1989-90 and 1990-91. On grass pea, symptoms varied from loss of chlorophyll and wilting and drying up of the foliage of the entire plant to those where stem segments at one or more nodes became bleached and dried up. On field pea, leaf symptoms were light brown often with a purplish tinge and occurred randomly on the plant. Also on field pea, purplish brown streaking of the stem and petiole was prominent. On both hosts, purplish circular lesions or diffuse purplish areas were characteristic on the pods. Flower and pod abortion occurred on severely affected plants. Symptoms of this virus were also observed on potato, tomato, Nicotiana and petunia. The western flower thrip, Frankliniella occidentalis, vector of this virus, was abundant throughout the greenhouse area. This is the first report of tomato spotted wilt virus in Manitoba, and a first report of L. sativus as a host.

7.0 Phytophthora on veggies (Florida)

Phytophthora

Scouts in Palm Beach continue to report isolated widely scattered cases of Phytophthora capsici on pepper and eggplant.
Reports of phytophthora on eggplant have been received from Homestead. Around southwest Florida, Phytophthora capsici is being reported on pepper and squash from a number of widely scattered sites from Naples to Immokalee. In some cases, beans have also been affected. In some cases incidence and severity is high, and in at least one case, fields were disked up as crop damage reached high levels.

Phytophthora capsici causes preemergence seed rot and postemergence seedling blight similar to those caused by other damping-off fungi. White fungal growth may cover infected tissue under moist conditions.

All parts of pepper are susceptible to the disease. Infection is most common at the soil line, and starts as a dark, water-soaked area. Stem lesions are dark brown to black and result in girdling and plant death. At first, leaf spots are irregular to round, and water-soaked. With age, the spots enlarge, turn a light tan, and may crack. Fruit rot appears as dark green, water soaked areas. Infected areas may be bordered by white fungal growth during wet periods. Infected fruit becomes shrunken, wrinkled and brown, and remains attached to the stem.

In eggplant, fruit rot is the primary symptom. It begins as a round, dark brown area on any part of the fruit. A rapidly expanding light tan region typically surrounds lesions. Phytophthora fruit rot in eggplant lacks the concentric patterns and dark fruiting structures associated with Phomopsis.

Phytophthora capsici can cause crown infections, leaf spot, and foliar blight in tomato. Infections are generally most severe just after transplanting. Rot occurs mainly where fruit contacts the soil and begins as dark, water-soaked spots that expand rapidly during warm weather.

Summer squash is highly susceptible to Phytophthora foliar blight and fruit rot. Under warm, wet conditions, P. capsici can devastate entire squash plantings in a matter of days.
Angular water-soaked lesions, as well as a rapid fruit rot, which is covered with white fungal growth, are produced in cucumber. Symptoms of Phytophthora blight in cantaloupe include leaf lesions and tip dieback of vines.

Phytophthora capsici survives in seed and plant debris in the soil by means of thick-walled oospores. The pathogen also produces zoospores that are motile and swim to invade host tissue. Phytophthora capsici can also move as fungal hyphae in infected transplants and on contaminated soil and equipment. Since water is necessary for dispersal and infection, maximum disease occurs during wet weather and in low or waterlogged parts of fields. High rainfall and standing water provide ideal conditions for epidemics. The pathogen is active over a range of temperatures, but temperatures between 80-90°F are optimal for producing zoospores and infection. Under ideal conditions, symptoms occur 3-4 days after infection and the disease can rapidly affect entire fields.

Planting sites should be well drained. Good water management is essential to prevent flooded conditions, which favors Phytophthora blight.

Preplant soil fumigation is recommended and fungicides such as Ridomil Gold and UltraFlourish should be used preventively. Fungicides with different modes of action should be rotated to prevent the buildup of fungicide resistance. Rotating or tank-mixing a systemic with a contact fungicide such as maneb is recommended. Resistance has not been identified in cultivars currently grown in Florida.

(Gene McAvoy, SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, January 3, 2003)

8.0 Postharvest disease Management (Florida)

Post-Harvest Disorders
Growers and pack house operators around south Florida are reporting a higher than normal level of post harvest problems in tomatoes and other crops. Many of these problems are undoubtedly related to hot wet conditions during the early part of the growing season.

Post harvest diseases can be caused by a variety of bacterial and fungal pathogens. These include bacterial soft rot (Erwinia carotovora subsp. carotovora) and other bacteria such as Pseudomonas, Xanthomonas and Bacillus sp. Fungal pathogens include sour-rot (Geotrichum candidum), Rhizopus stolonifer, target spot (Corynespora cassiicola), Phytophthora sp., Alternaria sp. and others.

Effective water sanitation is one of the most important means of combating these problems. Maintenance of 100 ppm to 150-ppm free (also known as available or active, not to be confused with "total") chlorine at a neutral pH (~6.5 to 7.5) is the recommended treatment of dump tanks, flumes, and washers.

As tomatoes are introduced into the dump-tank, leaves and soil also enter the water. Free chlorine reacts quickly with this organic matter plant and fruit surfaces as well as with soil or other inanimate matter. The products of these reactions make chlorine ineffective in killing microbes. Therefore, free chlorine concentration and NOT total chlorine concentration must be measured to determine the efficacy of the biocide in the tank.

Only free chlorine will destroy microbes. To further understand the difference between free and total chlorine, one can imagine a room full of chairs. With no one in the room, all of the chairs, the total number of chairs, are empty, or free. If several people come into the room and sit down, there is still the same total number of chairs present, but not as many chairs remain empty, or free for more people to sit in. As more people enter the room, all of the chairs eventually become occupied. This is similar to the free chlorine in the dump tank. As it reacts in the water, less is available for sanitizing and more free chlorine must be added to the water.
Effective water chlorination is also dependent on the pH of the water. Maintaining neutral pH (~6.5 to 7.4) maximizes efficacy of chlorine. Lowering the pH below 5 increases the amount of free chlorine, but can also increase off gassing, accelerate the rate at which chlorine is lost from the system (increasing the amount that must be added) and enhance corrosion of equipment. Alternatively, raising the pH above 7.5 reduces chlorine's efficacy.

It is also important to minimize infiltration of dump tank water (and any potential accompanying pathogens) into the tomato. Heating dump-tank water 5°C (about 10°F) above tomato pulp temperature has been shown to reduce infiltration through the stem-end or blossom-end scars and skin breaks and, therefore, reduce post harvest decay.

Tomatoes should be kept in the water for two minutes (one to three minutes). This assures sufficient contact with the sanitizer, while avoiding extended soaking time that can increase water uptake.

For effective sanitation, the dump tank must be frequently monitored for free chlorine, pH and water temperature throughout the packing day. Automated systems using ORP and pH probes are commonly used in the industry, but manual readings should still be made and recorded every 30 minutes to an hour to ensure proper equipment operation. Record keeping is critical for trace-back and evaluation/resolution should a decay outbreak, occur during later handling, shipping or marketing. Hand-held electronic mV and pH meters, free chlorine test kits, and free chlorine are very reliable for this purpose.

Dump-tank water is not the only potential source of pathogen inoculation of fruit. Improper or careless handling during harvest or bin filling/dumping operations can cause serious mechanical damage. Some damage is obvious and is culled by sorters on the packing line. However, some other damage is nearly invisible without close inspection. A good example is the scraping wounds due to fruit rubbing rough bin walls, or abrasion caused by sand grains. Abrasions and micro perforations can directly inoculate the tomato. Sand is most common, but dried plant material, attached
stems, wood splinters on bins, etc. can also be causal agents. Open wounds can also become infected later by other pathogens.

(Gene McAvoy, SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, November 27, 2002).

9.0 Powdery Mildew on Cucurbits (AZ)

POWDERY MILDEW OF CUCURBIT CROPS.

Field observations by M. Olsen, Extension Plant Pathologist, indicated that powdery mildew of melons and watermelons was more severe than normal this past year in much of central Arizona. She could only speculate as to why, but several factors could be involved. Chemical resistance was ruled out at this point because the disease was severe in different locations, on different cultivars, and on melons treated with different chemical regimes. The lengthening of our growing seasons may be one factor since there is so little crop-free time. Melons, watermelons and some pumpkins and squashes are in the ground almost year round, giving the pathogen (it is an obligate parasite and will reproduce only on living tissue) a place to live even if environmental conditions are not conducive to disease development. Another possible factor may be the presence of multiple races of powdery mildew. Its not sure which race(s) is prevalent in AZ. Cucurbit powdery mildew loves the dry weather such as we had the past couple years. Sometimes, summer rainstorms that we have lacked could actually reduce disease in some cases. Immediate plow down of infected fields, careful planning for selecting fields for very susceptible varieties such as some of the specialty melons, and rotations and/or combinations of fungicides with different modes of action are still the best control tactics.

(Kai Umeda, ed., Arizona State Univ, Maricopa County CES VEGETABLES NEWSLETTER vol IX, issue no. 12, December 13, 2002).
10.0 Target Spot on Tomatoes

**Target spot**

Scouts around Immokalee note that target spot is becoming a significant problem in some tomato fields. Lesions are starting on inner leaves and consuming the inner foliage. Target spot has also been detected in the canopy of younger plantings. There have also been reports of target spot appearing on harvested fruit.

Reports from Palm Beach and Homestead indicate widely scattered occurrence. Incidence and severity is low to moderate.

Foliar symptoms of this disease are often difficult to distinguish from bacterial spot without laboratory diagnosis. Initially small water soaked lesions appear on the upper leaf surface. The lesions develop gradually increasing in size becoming round and pale brown with conspicuous yellow halos. Petiole and stem lesions are brown and oblong and may girdle and kill individual leaflets.

The fruit lesions are quite distinct. They first appear as dark pinpoint brown spots, which may enlarge and develop into sunken lesions with pale brown centers that often crack open. Fruit lesions may be found anywhere on tomato fruit but are most often concentrated on the shoulders.

Target spot is a polycyclic disease that develops rapidly under cool damp conditions. Optimum conditions for disease development include temperatures of 68°F to 82°F and long periods of high moisture. The heavy night dews and foggy mornings often experienced in the fall in conjunction with tomato canopy closure are optimal for the development of this disease. Spray programs based on copper and manzate aimed at bacterial spot are ineffective in controlling target spot, chlorothalonil based compounds are recommended for control and should be rotated into a tomato disease control.

*(Gene McAvoy, Univ. Florida Coop, Ext. Service, SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE, Dec. 16, 2002).*
11.0 Select herbicide for root veggies

New Products for Rooting Vegetables

Root vegetable growers can now rely on a new product for control of annual and perennial grasses. Select 2EC Herbicide is tough on grasses and gentle on vegetable crops, and there are no crop rotation restrictions.

Root vegetable crops included in the new label are garden beet, edible burdock, carrot, celeriac, turnip rooted chervil, chicory, ginseng, horseradish, turnip rooted parsley, parsnip, radish, oriental radish, rutabaga, salsify, black salsify, skirret and turnip.

Application rate of Select 2EC for annual grasses is 6 to 8 fluid ounces per acre. For control of perennial grasses use 8 ounces per acre.

Select 2EC is already the No. 1 post emergence grass herbicide in sugar beets and soybeans.

Valent USA Corporation markets and sells herbicides, insecticides, bioinsecticides, insect growth regulators, nematicides, baits and plant growth regulators for agricultural, horticultural, turf, ornamental and professional pest control markets.

For more information call Valent USA Corporation at 800-682-5368 or visit the website at www.valent.com. (Vegetable WEST/ Oct. 2002, pg. 18).

12.0 Sandea herbicide on pumpkins

Sandea Provides Broadleaf Control in Pumpkins. Rick Cater, from Gowen, was also available at the trade show, and had several recommendations for use of Sandea (halosulfuron-methyl) in
Pumpkins. Sandea can be applied up to 30 days prior to harvest, but is best applied before the tip stage at the 3-4 true leaf stage. Application later can cause flower abortion, which can result in yield reductions. Yellowing and crinkling of pumpkins leaves can be lessened by applying 1/2” irrigation between 48 and 72 hours after application of Sandea. Currently, Sandea is available through Gowen, UAP Richter, and Helena Chemical Company in a 20 oz. jar. Around mid-April, a 10 oz. jar will also be available. You will be required to sign a waiver every two years for the purchase of Sandea. Proof of purchase and the waiver will be required to file any claims. Although halsulfuron-methyl has other crop labels, Sandea is the only legal label for pumpkin use. It is important that Sandea be purchased. Otherwise the companies may not maintain the label. Rick Cater, from Gowen, will be available at the Southern Illinois vegetable School to answer additional questions you may have concerning Sandea, or any of their other products.

(Illinois Fruit and Vegetable News Vol. 8, No. 19, January 17, 2003)

13.0 Mimosa Weed biocontrol (Australia)

WAGING A LONG-TERM WEED BIOBATTLE *
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The latest chapter in the ongoing pitched battle to control some of the world's worst weeds in Australia through biological control recently received reinforcements. Two new insect foes--a small beetle and a leaf-feeding moth--have been recruited to join a host of other bio-control agents attacking Mimosa pigra (no common name that can repeated here).

The target is a fast spreading, thoroughly noxious plant that arrived in Australia from tropical America and, as is often the case in such introductions, took full ecological advantage of freedom from natural predators. M. pigra has thrived in tropical regions of Australia and thoroughly degraded thousands of hectares of land; one recent survey estimated that mimosa occupied 85,000 hectares in the Northern Territory alone.
A program to apply biocontrol to M. pigra in Australia began in 1979 with release several years later of two seed-feeding beetles. Since then, over a dozen biocontrol agents--ten insects and two pathogens--have been identified, tested, and released. Some failed to live up to expectations, while others have been encouragingly successful in some locations.

The two newest biocontrol warriors, Malacorhinus irregularis (beetle) and Macaria palidat (leaf-feeding moth), were both identified on M. pigra_ in Mexico--where there are an estimated 400 plus predators keeping the plant in check--through a collaborative effort between Mexico and Australia. The small, colorful beetle eats mimosa seedling leaves, while the moth savors both young and mature leaves. Together, the pair is capable of extensive defoliation, thus reducing the weed's competitive ability and significantly slowing its prolific seed production.

While prudently hesitant to predict the fate and impact of a biocontrol tactic, Australian scientists are hopeful that the pressure of introduced biocontrol agents supplemented by other measures will begin to balance and eventually diminish mimosa's unchallenged expansion.

*--> T. Heard, CSIRO Entomology, Private Bag 3, Indooroopilly, QLD 4068, AUSTRALIA. E-mail: <Tim.Heard@csiro.au>. Fax: 61-7-3214-2885. Phone: 61-7-3214-2843.
--thanks to CSIRO information contacts for information. (IPMnet NEWS, January 2003, Issue 109)

14.0 Roundup resistant weeds- growing problem

Glyphosate-resistant Crops and Weeds
(From: P A N U P S Pesticide Action Network Updates Service and Joe Kovach, OSU IPM Program)

Global plantings of genetically engineered crops have increased this year by 10.5% to 136.2 million acres (55.1 million hectares). In the U.S., Roundup Ready soybeans (soybeans engineered to be resistant
to glyphosate), are the most widely planted genetically engineered crop; plantings increased 9.9% to 60.2 million acres in 2002. Plantings of Bt cotton (cotton engineered to produce an insecticide), however, declined in the U.S. (from 0.5 million acres to 0.4 million) and China (from 2.2 million acres to 1.9 million).

One problem is the growing number of cases of glyphosate-resistant weeds. In the past few years, cases of resistance have been documented around the world. In 1996, resistant Rigid Ryegrass was found in one part of Australia; then in 1997, it was discovered in New South Wales. Cases of resistant Rigid Ryegrass have also been documented in California (2-5 sites) in 1998, and in South Africa (11-50 sites) in 2001.

In 1997, Goosegrass resistant to glyphosate was found in multiple orchards in Malaysia. Glyphosate-resistant Italian Ryegrass was discovered in orchards in Chile in 2001. Weed scientists there estimate that up to 500 acres may be infested.

In 2000, cases of resistant Horseweed (also known as Marestail) began appearing in soybean fields in the United States. Resistance has been documented in Delaware, Indiana, Maryland, New Jersey, Ohio and Tennessee. In Tennessee, resistant Horseweed was also found in cotton. Scientists estimate that from 100,000 to one million acres are infested with resistant Horseweed, primarily in Tennessee and Delaware.

A white paper was recently released by one corporation examining the impact of glyphosate-resistant weeds on land value. The paper concludes that specific weed resistance can reduce a farm's rentable value by 17%, and that the greatest weed-resistance concern is glyphosate tolerance in Roundup Ready crops.

Sources:
"Glypohsate-Resistant Weeds: Will They Decrease Land Value?, Syngenta,
15.0 Cabrio fungicide in strawberry

Cabrio EG - new fungicide in strawberry

Frank also mentioned the availability in the January The Strawberry Grower (Volume 10, No. 1) of Cabrio EG, a new fungicide that has been registered by BASF on multiple crops including strawberries. The active ingredient is pyraclostrobin (20%) which is very similar chemistry to the other strobilurin chemicals such as Quadris. Cabrio is labeled for management of anthracnose, common leaf spot, and powdery mildew in strawberries. Both Cabrio and Quadris have only marginal activity against Botrytis, according to Frank’s report. Dr. Louws found in his studies that Quadris and Cabrio performed equally well in anthracnose control and both perform best when tank mixed with Captan. He feels that growers may choose either product with success. Cabrio has a minimum time from application to harvest (PHI) of “0” days. The maximum rate per acre per application (oz) is 14 oz. The maximum number of sequential applications is 2, and the maximum number of applications per season is 5 (maximum rate/acre/season is 70 oz.). I have not had a chance to check on costs relative to Quadris (next issue).


16.0 New Pesticide Updates (Ohio)

New Insecticide Registrations(C. Welty)
Cruiser 5FS is a new commercial seed treatment for sweet corn, registered in October 2002. Cruiser contains the active ingredient thiamethoxam, which is in the neonicotinoid family. It is made by Syngenta. Thiamethoxam has systemic activity and is the same A.I. found in Actara and Platinum. Target pests of Cruiser include corn flea beetle as well as wireworms, seedcorn maggot, white grubs, and chinch bug. Cruiser is similar to Gaucho and like Gaucho is intended for use by seed companies not individual farmers; farmers should check with their seedsman for availability of Cruiser-treated seed.

Baythroid 2EC registration was expanded in September 2002 to include cole crops (0-day preharvest interval), leaf and head lettuce (0-day PHI), dry peas (7-day PHI), and southern peas (3-day PHI). Baythroid is a pyrethroid with the active ingredient cyfluthrin, made by Bayer. Target pests include caterpillars such as cutworms, loopers, imported cabbageworm, and corn earworm; as well as potato leafhopper, thrips, flea beetles, Japanese beetle, stink bugs, tarnished plant bug, spittlebug, and grasshoppers.

Intrepid 2F registration was expanded in September 2002 to include tomato, pepper, and eggplant (1-day preharvest interval); cole crops and leafy vegetables (1 day PHI); and sweet corn (3-day PHI). Intrepid is an insect growth regulator with the active ingredient methoxyfenozide, made by Dow. Intrepid is an improved version of Confirm, which contains tebufenozide. Target pests of Intrepid include beet armyworm, fall armyworm, loopers, European corn borer, hornworms, tomato fruitworm. It is used at a rate of 4 to 16 fluid ounces per acre.

SpinTor 2SC continues to add crops to its label. In September 2002, registration was approved for the root vegetables including radish, turnip, rutabaga, carrot, and parsnip, all with a 3-day PHI; and for herbs, with a 1-day PHI. SpinTor contains the active ingredient spinosad, made by Dow. Target pests include armyworms, loopers, European corn borer, flea beetles, thrips, and dipteran leafminers.

The items listed above will not appear in the 2003 Ohio Vegetable Production Guide but will be added to the 2004 guide.
New Insecticide Restrictions
The label for Actara 25WDG will be shrinking if EPA agrees to manufacturer Syngenta's voluntary request to cancel some uses. Tomatoes, eggplant, squash, pumpkins, melons, and cucumbers will no longer be registered, although peppers and potatoes will remain registered. Actara is used for control of aphids, whiteflies, stink bugs, flea beetles, and Colorado potato beetle. Its active ingredient is thiamethoxam.

(VegNet Vol. 9, No. 26. December 18, 2002, Ohio State University Extension Vegetable Crops)